UNIVERSITY OF WARWICK

Job Description

Job title	Senior Workshop Technician (Electronics)
Department	Chemistry
Grade	5

Job purpose (a brief summary of the role)	To contribute electronics skills and experience to the Workshop Facility. The post holder will use a range of techniques to support the design, assembly, testing, and repair of electronic systems and components for novel instruments and equipment for experimental research and teaching. This includes PCB assembly, diagnostics, and integration with mechanical and software systems.
Duties and responsibilities	**1. Interpretation of Designs and Preparation for Fabrication and Assembly** • Interpret electronic schematics, PCB layouts, wiring diagrams, and technical documentation to understand requirements for fault finding, assembly, testing, and integration. Interpret requests from Academics, Researchers and Technicians for electronic systems and components, this may come in a variety of formats, ranging from a verbal description or hand-drawn diagram to detailed circuit designs and technical specifications. • Seek to understand the purpose and reasoning behind requests to propose simple design solutions, assess feasibility, and suggest options for improvement where appropriate. • Prepare technical specifications and create circuit diagrams and PCB layouts using electronics design software (e.g. NI Circuit Design Suite) • As a member of the Workshop Team, contribute to project meetings and discussions with Academics, Researchers and Technicians. **2. Fabrication, Assembly, Repair and Modification** • Operate the range of standard test equipment, including multimeters, oscilloscopes and signal generators. • Fabricate, assemble, modify, repair analogue and test analogue and digital systems using a range of techniques, (e.g. PCB manufacturing). • Contribute code to software programmes for embedded processors using common programming languages. • Prepare specifications for enclosures and contribute to their assembly. • Contribute to the maintenance, fault-finding and repair of various bespoke research and legacy equipment where specifications are not always available. • Modify existing equipment to change or improve function for developing new research outputs. • Retain an understanding of priority projects and target completion dates, contributing to the planning and scheduling of work in the most efficient way to achieve these deadlines and maintain records of progress. • The electronics workshop is continually improving facilities and expanding capability to encompass new and emerging technologies. Learning new skills and techniques is an ongoing process within the role.

3. Electronic Workshop Safety, Maintenance and Continuous Improvement

- Implement and follow best practice in health and safety. Contribute to the risk assessment process for workshop activities and aid in defining safe operating procedures for repeatable processes.
- Maintain awareness of relevant health and safety standards, guidance and policy, and the impact these have on electronics workshop activities.
- Support the maintenance of the electronics workspace and equipment to a high standard by engaging with workshop procedures. This will include conducting regular checks, reporting issues, supporting actions to resolve, and good housekeeping practice.
- Contribute to sustainable practice.
- Report low stock levels needing replenishment and follow procedures for the safe storage of consumables and materials.
- Compile purchase orders for general stock and consumables.
- Maintain records of issues and actions taken in relation to maintenance and safety in accordance with workshop procedures.
- Communicate ideas and feedback on the continuous improvement of the facility to improve ways of working and expand capability.

4. Support the Development of Others

- Assist with the delivery of training through instruction, demonstration and supervision as required.
- Ensure understanding and competency of trainees and record their progress as required.
- Demonstrate and supervise “on-the-job” learning during day-to-day tasks and work in progress.
- Contribute to informal progress reviews for trainees and apprentices.

5. Other Responsibilities

- Always act with professionalism, show respect to colleagues and understand and adhere to the University's value of dignity at work. To work collegially and support all teams with which you have contact to achieve the University's objectives.

- Any other duties commensurate with the grade and level of responsibility of this post, for which the post holder has the necessary experience and/or training.

Person Specification

The Person Specification focuses on the essential and desirable knowledge, skills, experience and qualifications required to undertake the role effectively. This is measured by (a) Application Form, (b) Test/Exercise, (c) Interview, (d) Presentation.

Essential Criterion No.	Essential Criterion Description	Measured by
E1	A relevant vocational qualification at NVQ level 4 or HNC/HND in a electronic engineering or similar discipline, or significant experience working with electronic systems.	A & C
E2	Significant experience in assembling and testing electronic systems and components.	A,B & C
E3	Experience using test and diagnostic equipment such as oscilloscopes, multimeters, and signal generators.	A,B & C
E4	Experience of interpreting technical specifications for electronic systems, circuit diagrams and PCB layouts.	A,B & C
E5	Experience of working in accordance with safety procedures.	A,B & C
E6	A broad knowledge of electronics assembly and testing techniques and an aptitude for developing skills in emerging technologies.	A & C
E7	Ability to diagnose faults and carry out repairs on electronic systems and PCBs.	A,B & C
E8	Excellent communication skills both written and verbal.	A,B & C
E9	Ability to manipulate electronics design software to create technical drawings (e.g. NI Design Suite), and conversant in general packages (e.g. Microsoft Office).	A & C
E10	Excellent interpersonal skills to enable professional interaction with academics, students, external partners and visitors.	A,B & C
E11	Excellent team working skills.	A & C
E12	A degree of flexibility to respond to the changing needs of research.	A & C
E13	Ability to work independently to tight deadlines to deliver high quality outcomes.	A & C
E14	A high level of health and safety awareness appropriate for the environment, and the ability to guide and supervise others in safe practice.	A,B & C
E15	An ability to work collaboratively and effectively with academic and administrative colleagues, and with colleagues outside the University to promote collegiality.	A & C

Desirable Criterion No.	Desirable Criterion Description	*Measured by*
D1	IOSH Managing Safely (or working/willing to work towards).	A & C
D2	Experience of developing software for electronic systems.	A & C
D3	Experience of training others in practical skills.	A & C
D4	A background of working in a higher education / lab-based / research / electronic engineering environment.	A & C
D5	Knowledge of structured and modular programming languages. (e.g. C, C++, VHDL).	A & C